

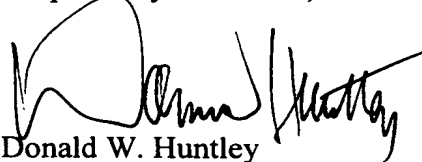
Applicant: Yokoyama, et al.  
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Title: Preliminary Amendment  
Page: 6

**REMARKS**

The above amendments are made to correct minor errors in the specification and claims and to replace tradenames with the known chemical equivalents for those materials. New Claims 7-11 are fully supported by the specification as originally filed, and are presented to more fully claim the applicants' invention. A marked-up version of the modified portions of the specification and the amended claims follows, showing the changes made.

The newly-submitted claims are not believed to require any additional fee. However, if any such fee is required, it can be charged to the Deposit account of the undersigned, No. 08-3440.

Respectfully submitted,



Donald W. Huntley  
Attorney for Applicants  
Registration No. 24,673  
Telephone: 302-426-0610

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**Version with markings to show changes made**

Revise the paragraph at page 2, line 9 as follows:

Specifically the present invention provides an anionic electrodeposition coating composition comprising (a) about from 20 to 70 % by weight of acrylic resin; (b) about from 5 to 40 % by weight of emulsified polymer containing alkoxyisilyl groups and produced by a multiple stage emulsion polymerization of unsaturated monomers, wherein about from 5 to 40% by weight of the unsaturated monomers used in the multiple stage emulsion polymerization contain [aloxysilyl] alkoxyisilyl groups, and the polymerization is carried out in the presence of water and emulsifier; and (c) about from 20 to 60 % by weight of at least one crosslinking agent.

Revise the two paragraphs beginning at page 4, line 18 as follows:

The radical polymerization catalyst used in the preparation of the acrylic resin can vary widely, and can include azo compounds, peroxide compounds, sulfides, sulfines, diazo-compounds, nitroso- compounds, and the like. When the acrylic resin is copolymerized from compounds having two or more unsaturated groups in their molecule as described above, a radical polymerization catalyst is preferably used, generally in the range of about from 1 to 5 % by weight based on a total amount of all unsaturated monomers used by production of the acrylic resin. The specific amount of radical [readical] polymerization catalyst will depend on a kind and amount of the monomer having two or more unsaturated groups in its structure.

In the preparation of the acrylic resin, it is desirable to use a solvent which is capable of dissolving the copolymer being produced and miscible with water so that gelation does not take place during the copolymerization reaction. Examples of such solvents which can be used include ethylene glycol monoethyl ether [cellosolve] solvent, diethylene glycol monoethyl ether [carbitol] solvent, [glyme solvent,] ethylene glycol monoethyl ether acetate solvent, alcoholic solvent and the like.

Revise the paragraph beginning at page 7, line 24 as follows:

Crosslinking agents which can be used in the preparation of the coating compositions of the present invention can [very] vary widely. The crosslinking agents preferably are

compatible with the acrylic resin with the aid of one or more common organic solvent. The crosslinking agents generally are not completely compatible [compatibile] with the acrylic resin. It has been found that complete compatibility interferes with the desirable [desireable] matte finish of the coatings prepared from the present compositions. Typical crosslinking agents which can be used in the present invention include melamine resin and/or blocked polyisocyanates. These crosslinking agents react hydroxy groups in the acrylic resin and the emulsified polymer to form a crosslinked film.

Revise the paragraph beginning at page 10, line 11 as follows:

A reactor equipped with a thermometer, a thermostat, a reflux condenser and a drop device was charged with 100 parts of isopropyl alcohol, 150 parts of n-butyl alcohol and 100 parts of butyl ethylene glycol monoethyl ether [cellosolve] and kept at 85°C. A mixture of 50 parts of styrene, 200 parts of methyl methacrylate, 100 parts of n-butylacrylate, 50 parts of ethylacrylate, 70 parts of 2-hydroxyethylacrylate, 30 parts of acrylic acid, and 4 parts of azobisdimethylvaleronitrile was then added to the reactor dropwise over a period of 3 hours, followed by adding 5 parts of azobisdimethylvaleronitrile. The resulting mixture was maintained at a temperature of 85°C for 3 hours to obtain an acrylic resin (A- 1) varnish having a solids content of 59 % by weight. The resulting resin had a weight average molecular weight of about 50,000, an acid value of 46 mg KOH/g, a hydroxy value of 67 mg KOH/g, and an SP of 9.49.

Revise the paragraph beginning at page 10, line 21 as follows:

A reactor equipped with a thermometer, a thermostat, a reflux condenser and a drop device was charged with 100 parts of isopropyl alcohol and 150 parts of n-butyl alcohol and 100 parts of butyl ethylene glycol monoethyl ether [cellosolve] and kept at 85°C. A mixture of 50 parts of styrene, 190 parts of methyl methacrylate, 100 parts of n-butylacrylate, 50 parts of ethylacrylate, 70 parts of 2-hydroxyethylacrylate, 30 parts of acrylic acid, 10 parts of triallylisocyanurate and 4 parts of azobisdimethylvaleronitrile was then added to the reactor dropwise over a period of 3 hours, followed by adding 5 parts of azobisdimethylvaleronitrile. The resulting mixture was maintained at a temperature of 85°C for 3 hours to obtain an acrylic resin (A-2) varnish having a solids content of 59% by weight. The resulting resin had

a weight average molecular weight of about 60,000, an acid value of 46 mg KOH/g, a hydroxy value of 67 mg KOH/g, and an SP of 9.49.

Replace the Table 1 at page 12 with the following:

			Preparation Example				
			3	4	5	6	7
Name of Emulsified Polymer			B-1	B-2	B-3	B-4	B-5
Formulations	Emulsified Monomer (1)						
		[SE-10N]	1	1	1	1	1
		Deionized water	30	30	30	30	30
		Styrene	22	22	20	30	22
		n-butylacrylate	22	22	20	16	20
		1,6-hexanedioldiacrylate	2	4	10	2	8
		[KBM-503]	4	2		2	
	Emulsified Monomer (2)	[SE-10N]	1	1	1	1	1
		Deionized water	30	30	30	30	30
		styrene	16	12	12	10	20
		n-butylacrylate	16	12	12	20	22
		1,6-hexanedioldiacrylate	2	2	2		4
		[KBM-503]	14	22	22	16	
		2-hydroxyethylacrylate	2	2	2	4	4
Solid content/[\$] % by weight			20	20	20	20	20
Particle size/nm			120	110	102	128	123

Rewrite Claim 1 to read:

1. (amended) An anionic electrodeposition coating composition comprising (a) about from 20 to 70 % by weight of acrylic resin; (b) about from 5 to 40 % by weight of emulsified polymer containing alkoxysilyl groups and produced by a multiple stage emulsion polymerization of unsaturated monomers, wherein about from 5 to 40% by weight of the unsaturated monomers used in the multiple stage emulsion polymerization contain alkoxysilyl [alkoxysilyl] groups, and the polymerization is carried out in the presence of water and emulsifier; and (c) about from 20 to 60 % by weight of at least one crosslinking agent.

New Claims 7-11:

7. An anionic electrodeposition bath which comprises an anionic electrodeposition coating composition of Claim 1.

8. A process comprising applying an anionic electrodeposition coating composition of Claim 1 onto a metal substrate and curing the composition

9. A process of Claim 8 wherein the substrate is aluminum.

10. An article resulting from the process of Claim 8.

11. A metal substrate coated with a cured anionic electrodeposition coating composition of Claim 1.